

PostCure 1050

Facility Guide

Release Date: 1/6/2023

Original Instructions



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1 POSTCURE 1050 INTRODUCTION

This guide provides you with information on how to properly prepare your facility for the PostCure 1050. This chapter introduces you to the PostCure 1050 curing unit and other system components - including lists of other support equipment and supplies that you will find helpful in setting up your facility.

Additional chapters include guidelines for the following:

- [Site Selection](#) - gives information on how much space the PostCure 1050 requires, and the necessary services and equipment needed for a highly efficient, ideal location for your PostCure 1050 and its components.
- [System Delivery](#) - provides information about preparing for the delivery of your PostCure 1050.
- [System Installation](#) - explains the process of, and requirements for, installing the PostCure 1050 in your facility.

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1.1 PostCure 1050

The PostCure 1050 is a flexible and efficient curing unit for 3D Systems SLA and Figure 4® printers. The system uses an array of UV Light Modules and heaters to deliver consistent curing results that help ensure ideal mechanical properties and dimensional accuracy. The curing chamber can accommodate parts up to 1050 x 825 x 610 mm (41.3 x 32.5 x 24 in.) printed on any 3D Systems SLA or Figure 4 printer.

Specifications

- Radiation spectrum: ~350-450 nm
- Max light output: 25 mW/cm²
- Heating Range: up to 80°C (176°F)
- Curing Time: 30-90 min.



2 POSTCURE 1050 SITE SELECTION

This section provides the requirements and recommendations to determine the most appropriate location for a highly functional, efficient PostCure 1050 workspace, with room for other equipment and supplies. After narrowing the list of possible locations, consider each requirement carefully before making a decision about the final placement site.

Space Requirements

User preferences, building codes, and equipment configuration help define the total floor area that your PostCure 1050 will need. The system should be located in an environmentally controlled room. Clearance around the machine should be at least 15.2 cm (6 in.) on the sides and back, and enough clearance on the front to open the doors. If storing anything under the machine, ensure that it clears the skirt.



Note: Due to optical radiation safety requirements, the machine should be located in a low-traffic room to minimize disruption during a potential service call.

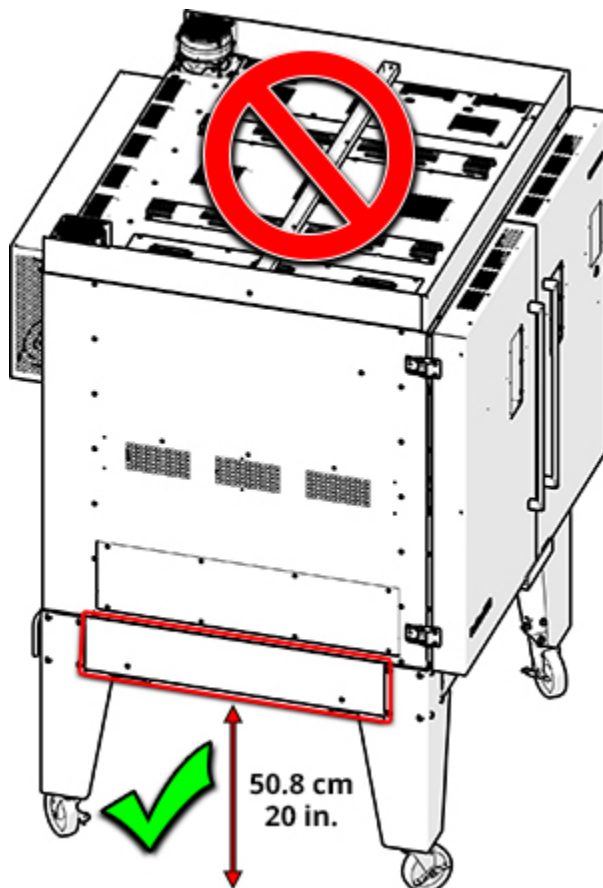


Note: The height of your system may vary depending on your in-house ventilation requirements. The image below shows measurements without third-party ventilation attached.

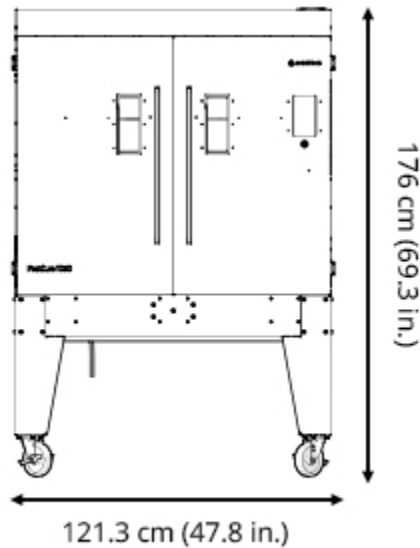


Note: The unit featuring cooling stack on the top. Do not stack anything on top of the unit or place in an area with low ceiling clearance.

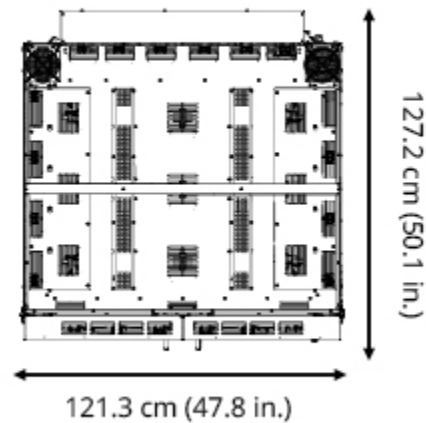
Do not place anything on top of the curing unit, or place the curing unit where there is low clearance (< 20.3 cm [8 in.]) over the top. Doing so risks overheating the machine.



PostCure 1050 Measurements - Doors Closed

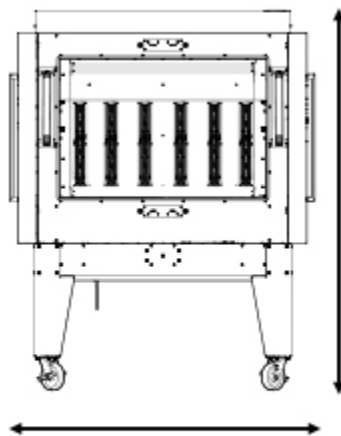


Front, doors closed



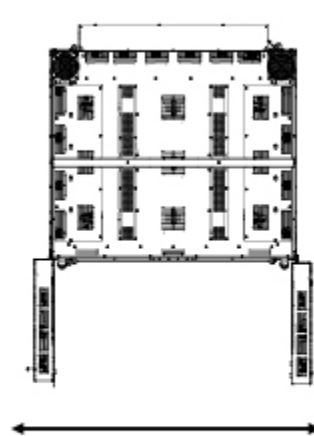
Top, doors closed

PostCure 1050 Measurements - Doors Opened



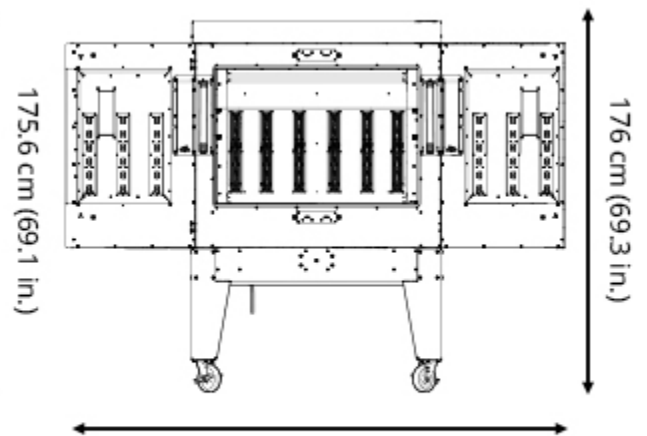
141.4 cm (55.7 in.)

Front, doors open



141.4 cm (55.7 in.)

Top, doors open 90°



237.3 cm (93.4 in.)

Front, doors open 180°

2.1 Part 1

2.1.1 PostCure 1050 Floor/Area Surface

Floors and counter spaces in the work area should be non-porous and suitable for cleaning with solvents. The feet of the PostCure 1050 must be on strong, stable concrete and should not straddle any floor seams. The maximum permissible floor incline is 2.5 cm/12 m (1 in/40 ft).

2.1.2 PostCure 1050 Floor Vibration and Shock

2.1.3 PostCure 1050 Floor Capacity

The uncrated machine weighs 272.2 kg (600 lbs). Refer to the Weights and Measurements Charts to determine the total weight of the equipment to be housed in your printing room to ensure that you do not exceed the maximum load-bearing capacity that your flooring can support.

2.1.4 PostCure 1050 Electrical Requirements

Electrical voltage requirements:



Note: The PostCure 1050 will arrive with a North American L6-30P plug on the end of a 12 ft. cord. If the supplied AC plug configuration is not suitable for use in your country or region, please source a suitably approved industrial AC plug connector with a minimum rating of 250V, 30A. The alternate AC plug must be installed by a qualified professional.

200-230 VAC 50/60Hz Single Phase, 30A (NA)/32A (EU) - requires a dedicated circuit for L6-30 connector



The facility's power circuit must have a 30A (NA) or 32A (EU) branch protective circuit breaker, installed by a certified electrician. If facility requires lockout/tagout (LOTO) on the machine, the facility will need to provide its own LOTO shield. UPS usage is strongly recommended in areas where power fluctuations are frequent, as surges and spikes can cause damage to electronic components, and loss of power can result in the restarting of the curing process (This can cause over curing of parts.) or potential damage to the machine. Uninterruptible power, recommended especially in areas where circuits may be affected by lightning strikes, should be rated for 5kVA at a minimum.

Make certain that no heavy equipment, especially large electric motors (greater than 1.5 kW or 2 hp) are connected to the same circuit. Use a pass-through UPS with power conditioning. For specific information on a suitable UPS, contact a UPS manufacturer and provide the voltage rating, current draw, and desired backup time. The manufacturer can recommend an appropriate model.

2.1.5 PostCure 1050 Heat Dissipation

2.2 Part 2

2.2.1 PostCure 1050 Temperature

The temperature in the room or location where the PostCure 1050 resides should remain stable to allow optimal system operation and optimal part quality.

The working range is 13-30°C (55.4-86°F).

2.2.2 PostCure 1050 Humidity

The optimal humidity in the PostCure 1050 curing chamber and lab will depend to a certain degree on the material selection. Regardless, the humidity should always be non-condensing and should not vary outside the range of 20% to 70% RH*. Review your material information (SDS, Instructions for Use, and product labeling) for specific information on recommended humidity levels.

2.2.3 PostCure 1050 Altitude

The system is capable of operating correctly up to an altitude of 1,609 m (5,280 ft) above mean sea level.

2.2.4 PostCure 1050 Overall Sound Pressure Level (OASPL)

2.3 Part 3

2.3.1 PostCure 1050 Ventilation

Your HVAC system should perform at least six air exchanges per hour in the room where the machine is located. Ensure that your facility complies with all local and regional regulations regarding ventilation of vapors, dust, and other by-products of printing, cleaning and secondary processing. Always refer to and follow the information on the SDS for your specific material.

The machine may be connected to external ventilation if desired. A connection point is supplied for a 4 in. metal duct. For optimum performance the flow rate should be 150-350 cfm, as connected.

The customer is responsible for arranging for any external ventilation system to be installed. 3D Systems will not service any part of such a system, including attaching the ducts to the PostCure 1050. To have your system up and running with external ventilation as quickly as possible, it is recommended to have your ventilation provider install all duct work before your PostCure 1050 arrives. Then, on the date of installation, your ventilation provider should be present to connect the machine to the ventilation and ensure that it is working properly.



2.3.2 PostCure 1050 Air Cleanness

The room housing the PostCure 1050 system should be well-ventilated. Reasonable care should be taken to minimize dust and smoke which could contaminate the green parts and cause deterioration of LED bars. Avoid temperature fluctuation. Since dust, smoke and temperature fluctuations can affect the performance of the machine and the quality of the parts, a restricted area with positive-pressure, filtered air flow is recommended. Avoid proximity to machine shop areas, or where milling, grinding, sanding debris, or insects can be introduced.

2.3.3 PostCure 1050 Lighting

Standard fluorescent bars with clear plastic diffusers are recommended to minimize ultraviolet exposure, which will negatively affect green parts. Sunlight, quartz-halogen bars, and high-intensity incandescent bars are not suitable; and UV-intensive lighting or ultraviolet exposure through windows should be avoided. UV filters are available for windows and exposed fluorescent bars.

2.3.4 PostCure 1050 Door or Other Method of Preventing Access To Room

2.3.5 PostCure 1050 Network Access

Please pass off the following information to your network administrator:

Networking Requirements and Necessary Equipment

The PostCure 1050 includes an Ethernet interface, which can be connected to a Gigabit Ethernet network to offer network access to the system. Ensure your networking equipment conforms to the following:

- Shielded Ethernet cable
- One Cat-5e/Cat-6 Ethernet outlet
- 3D Connect™ requires connection to the internet via a gateway/NAT. All services use port 443 with encrypted connections

The customer is responsible for providing any other networking equipment desired.

2.3.6 PostCure 1050 Telephone Service

Dedicated telephone lines are not required for normal operation of a the system. You may wish to install a dedicated telephone line in the system installation area to facilitate discussions with 3D Systems Customer Service personnel while the machine is in operation, should the need arise.

3 POSTCURE 1050 SYSTEM DELIVERY

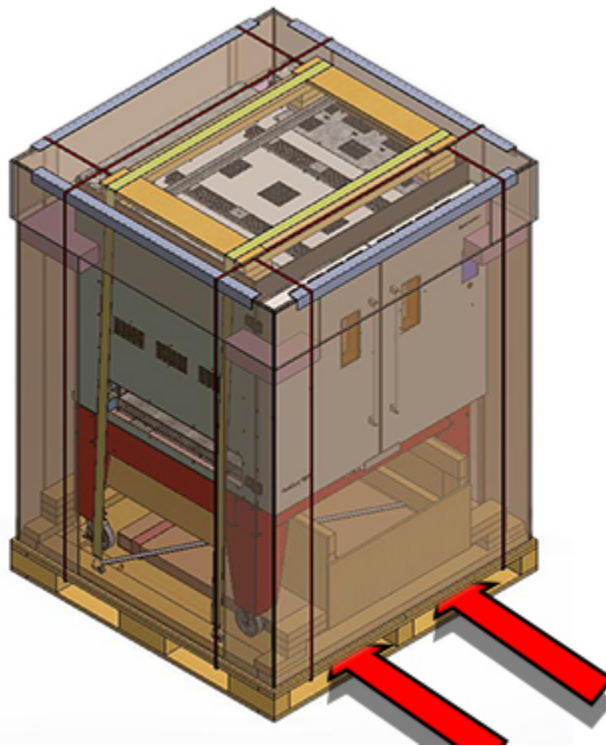
After placing your order, a 3D Systems representative will contact you to schedule your shipment delivery date. Ensure that the area where you intend to place your system is ready to move the system into, and that you have appropriate forklifts or other lifting devices before you install your system. The following information will guide you through this preparation phase.

3.1 Preparation for Receiving

Moving and positioning the crated PostCure 1050 components requires a pallet jack or forklift (customer supplied) with 1.8 m (6 ft.) extensions. Your machine will arrive in the following packages:

- 1 cardboard box on a pallet for the PostCure 1050
- 1 glass plate in protective box
- 1 10x10 in. box containing ventilation bracket

Inform your receiving personnel that these crates will be arriving and arrange for a location to store them until you are ready to install the system. If you do not have an adequate pallet jack or forklift on-site, contact the shipping company in advance of the shipment to discuss whether one is needed for receiving the shipment. An adequate forklift is one that can handle the machine's crate, which is 146.1 x 146.1 x 198.1 cm (57.5 x 57.5 x 78 in.) and 351.5 kg (775 lbs).



Forklift points on PostCure 1050 crate

3.2 Shipment Arrival

Once you have uncrated the PostCure 1050 system, you will note that it comes with the following:

- PostCure 1050
- Glass plate
- Ventilation bracket

Once your shipment arrives, first inspect the crates for any physical damage. Then, after inspection, receive the crates.

Inspect Exterior of System and Components

Visually inspect the exterior of the system and any other components ordered for any damage incurred during shipping. Report any damage or missing items to 3D Systems immediately.

3.3 Weights and Measurements Charts

The following charts list both crated and uncrated dimensions and weights for every possible crate that you may have ordered. Verify your order and compare to the listed items below. Crate dimensions/weights and pallet dimensions/weights may vary.

146.1 x 146.1 x 198.1 cm (57.5 x 57.5 x 78 in.) and 351.5 kg (775 lbs)

	CRATED SPECIFICATIONS			
Product	Width	Depth	Height	Weight
PostCure 1050	146.1 cm (57.5 in)	146.1 cm (57.5 in)	198.1 cm (78 in)	351.5 kg (775 lbs)
	UNCRTATED SPECIFICATIONS			
Product	Width	Depth	Height	Weight
PostCure 1050	121.3 cm (47.8 in)	127 cm (50 in)	176 cm (69.3 in)	272.2 kg (600 lbs)

4 POSTCURE 1050 SYSTEM INSTALLATION

Installation of your system encompasses four separate steps:

1. Purchase and arrival of third-party equipment or supplies you may have ordered.
2. Scheduling your installation date.
3. Delivery of your system.
4. Uncrating and installation of your PostCure 1050 system components.

System Uncrating

You will uncrate the PostCure 1050 and move it to your staging location.

Scheduling Your Installation

Allow one hour for your system installation; but discuss the expected installation duration with your 3D Systems representative. Every situation is unique and installation time depends on system size, location, and other factors.

Preparing for System Installation

In preparing your facility for PostCure 1050 system placement, you must consider four main factors:

- Make sure that you have the necessary doorway and passageway clearance to move either the crated or uncrated components to their final destinations.
- Make sure that you have an adequate forklift and a trained forklift driver or other lifting equipment that can move oversized system components - either crated or uncrated.
- Verify that the lifting equipment is rated for the load of the system components.
- Do not allow the system weight load to exceed your floor's load-rating maximum.

Availability for Adequate Forklift or Lifting Equipment

You must have a forklift and a trained forklift driver available during installation. Make sure that the forklift is rated to a weight capacity that is equal to or greater than the crated weight of the PostCure 1050. Please see the section Weights and Measurements Charts for full system dimensions and weights.

Your forklift must be equipped with, at minimum, 1.8 m (6 ft) forks. Please see the section Preparation for Receiving for information on forklift points on the machine's crate.

Minimum Passageway and Door Openings

Most standard doorways and halls provide adequate access for moving the PostCure 1050. Considering the crated machine is lifted on its narrow side, each passageway and doorway must be wide enough to move and turn a crate measuring 146.1 x 146.1 x 198.1 cm (57.5 x 57.5 x 78 in), in addition to the forklift dimensions.

Determine the pathway to where your PostCure 1050 system will be installed from where the crated machine is stored. Walk the path from the storage location to the final destination of the system, and measure any critical doorways or passageways to ensure that the equipment can be moved through the area.

If a passageway or doorway is too small for the crated system, it may be necessary to remove the system from its crate before moving the unit to its staging area. The minimum height of the doorway must be 176 cm (69.3 in.), which will allow the uncrated machine to roll underneath.

4.1 Uncrate the PostCure 1050



CAUTION: Before beginning, ensure that you have an appropriate forklift and another person to assist in uncrating.

1. The box is held together by packing straps. Cut these to release the cardboard.



1. Remove the top cardboard piece.



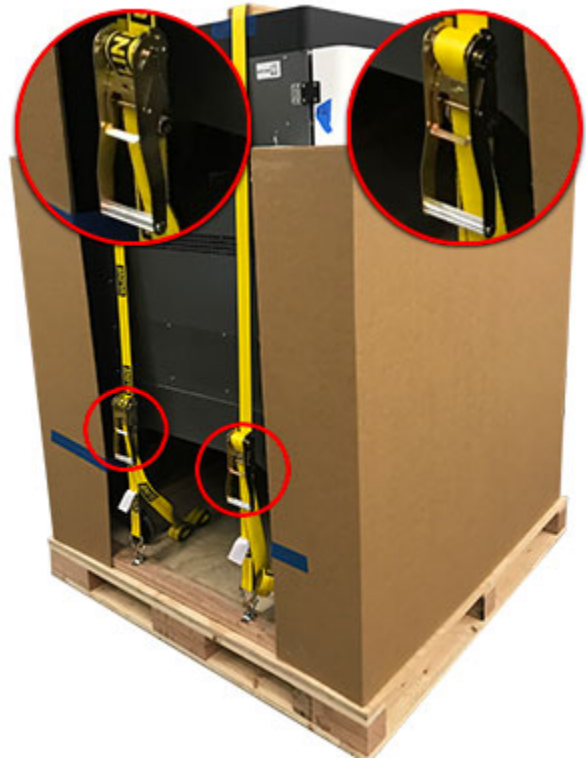
1. Cut the tape on both taped corners of the outside box and remove one side of the outer cardboard.



1. Remove both inner cardboard pieces.



1. Remove ratchet straps by loosening the tension handles shown



1. Remove top wood pieces.

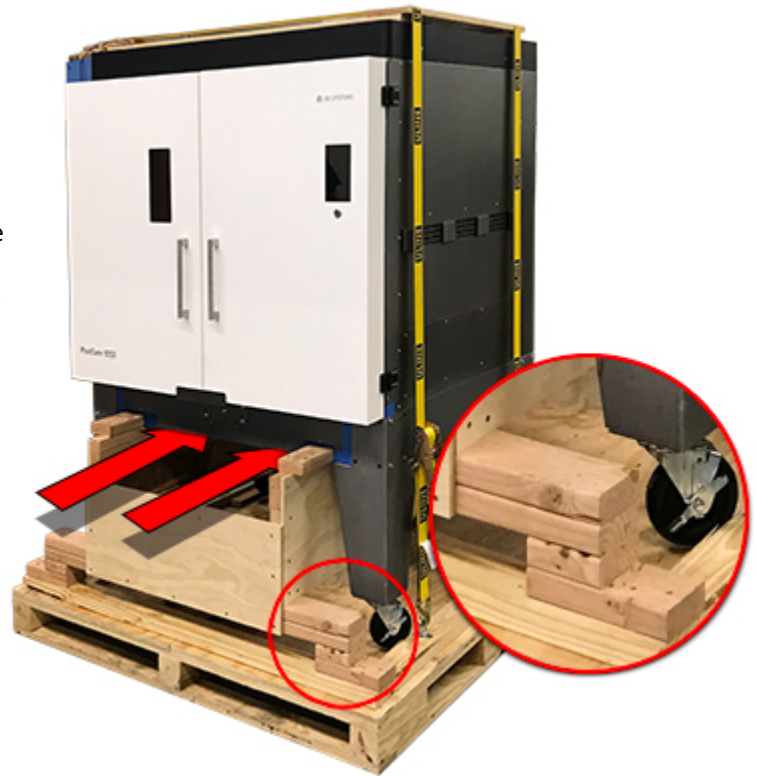


1. Have your forklift driver use six-foot extensions to lift and move the PostCure 1050 to your staging location, putting the forks where shown. When lifting the machine up, ensure the casters clear the wood surrounding them. Forklift Forks will need to be adjusted to lift the unit off the crate 27" outside of fork to outside of fork distance. Approach from the front of the machine with the forklift.

When the machine is in place, lock all the casters in place (see below).



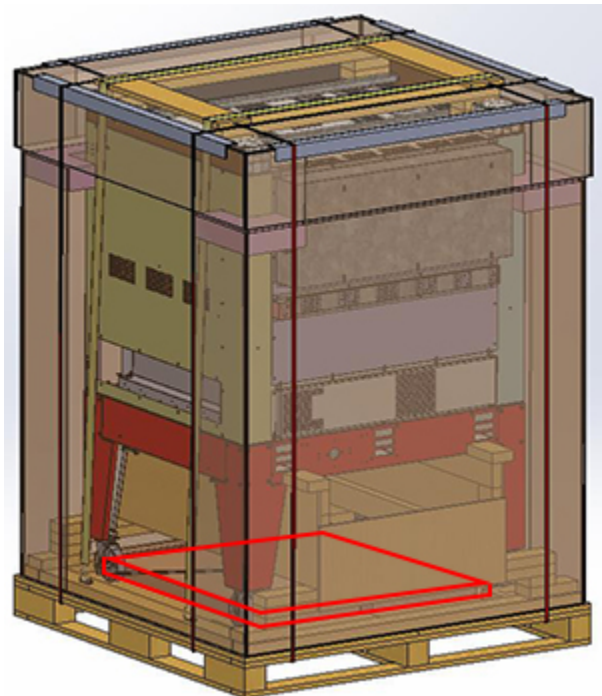
CAUTION: When moving, be aware of the power cord and components protruding from the machine.



1. Remove the glass-plate packaging and ventilation-bracket packaging from underneath the machine.



CAUTION: If not removed, the glass plate might get damaged when fork-lifting the machine off the pallet.



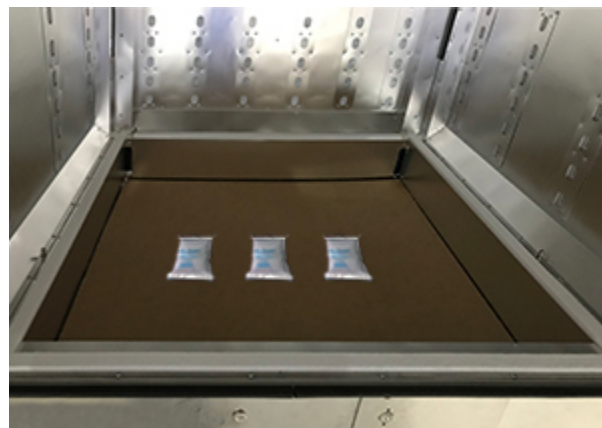
1. Use an M6 driver or wrench to remove the front shipping bracket.



CAUTION: Do NOT remove this bracket until the machine is in its intended place. The bracket exists to keep the doors from swinging open.



1. Inside the curing chamber, remove desiccant packs and the cardboard shown.



4.2 Install Glass Plate

The glass plate is used as an elevated platform on which the user will place parts to be cured.

1. With a helper, carefully move the glass plate onto the front plate rest.



1. Slide the glass plate on the side rests until it reaches the back rest.



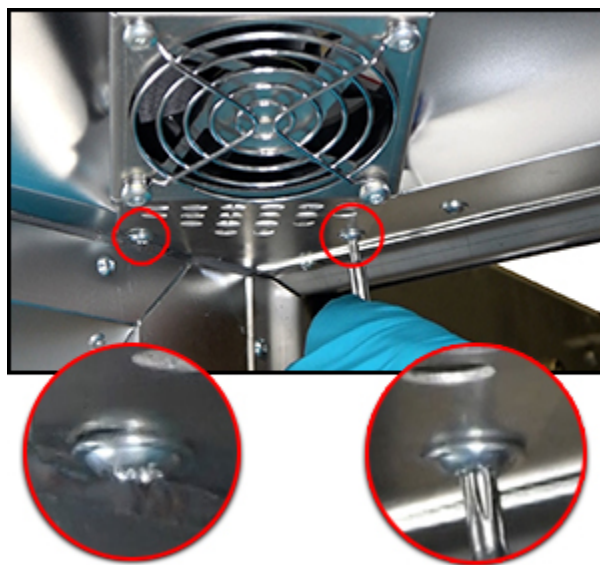
4.3 Remove LED Shipping Brackets (Optional)

On the inside ceiling of the curing chamber there are shipping brackets around each of the six LED bars. These brackets can be removed for slightly higher reflectivity.

1. Ensure that you have installed the glass plate in the previous section.



1. Remove the four cooling fans as seen in the [Remove/Replace Cooling Fan Procedure](#).

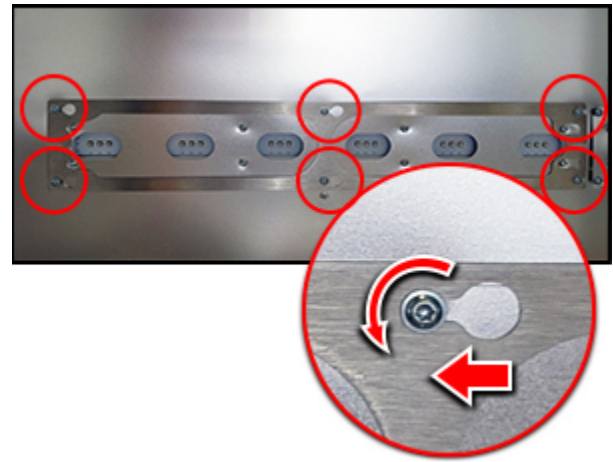
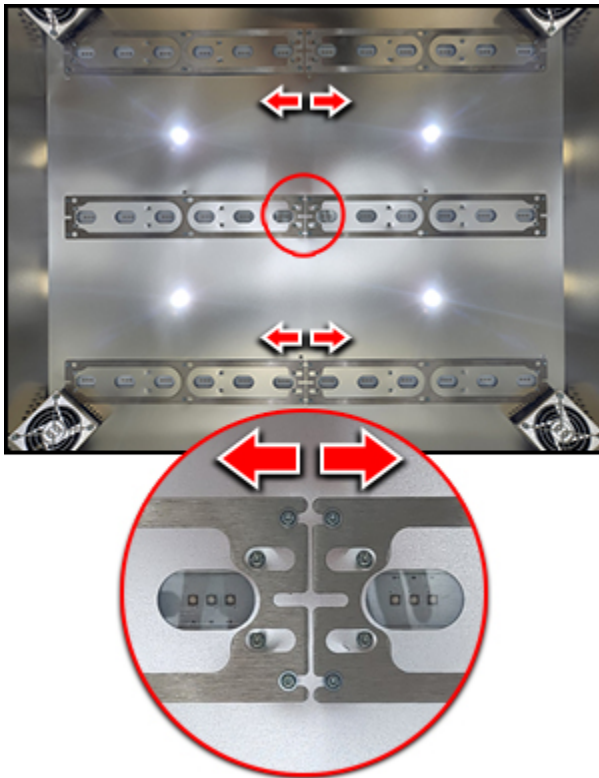




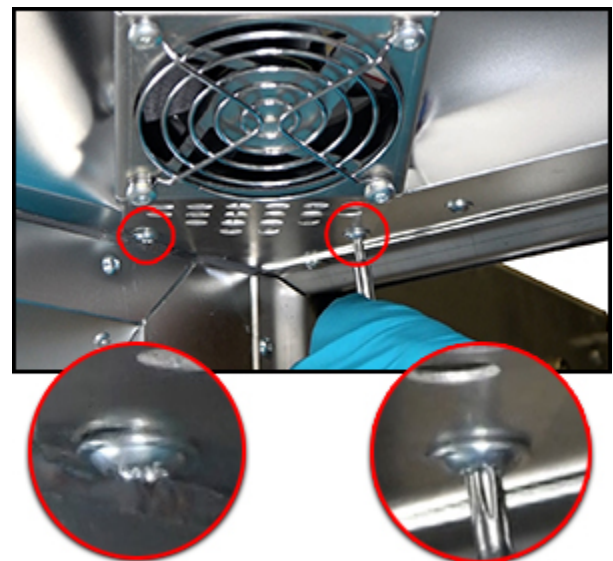
CAUTION - SHARP ELEMENT:
The shipping brackets have sharp edges. Take care when handling to avoid injury.

1. For each LED bar:

- Loosen the six T20 fasteners shown.
- Slide the bracket out of the way and pull it down. (see image below for breakdown of sliding directions)
- Tighten the 6 fasteners.
- Please retain the shipping brackets in case there are any future shipping needs.
- Repeat steps a - d for the other 5 bars in the top of the unit.



1. Reinstall the mixing fans.



4.4 Power on Machine

To safely power on the machine:

1. Ensure the standby switch on the back of the machine is switched Standby. Plug the machine into your 30A outlet.



1. Ensure your network cable is plugged in, and that it is connected to your network. Then flip the standby switch to on.
2. The GUI will now boot.



1. The first time the machine boots up, you will be asked to accept the End User License Agreement. If you wish to do this, scroll down and tap I agree.

(l) Relationship. This Agreement does not create a partnership, joint venture, or agency relationship between the parties. Neither Licensee nor 3D Systems shall have any right, power, or authority to act as a legal representative of the other or otherwise to obligate or bind the other.

(m) Survival of Provisions. The terms and provisions of Sections 2(b), 2(l), 3, 4(b), 5, 6, 7(b) and 8(b) of this Agreement shall survive the termination of this Agreement.

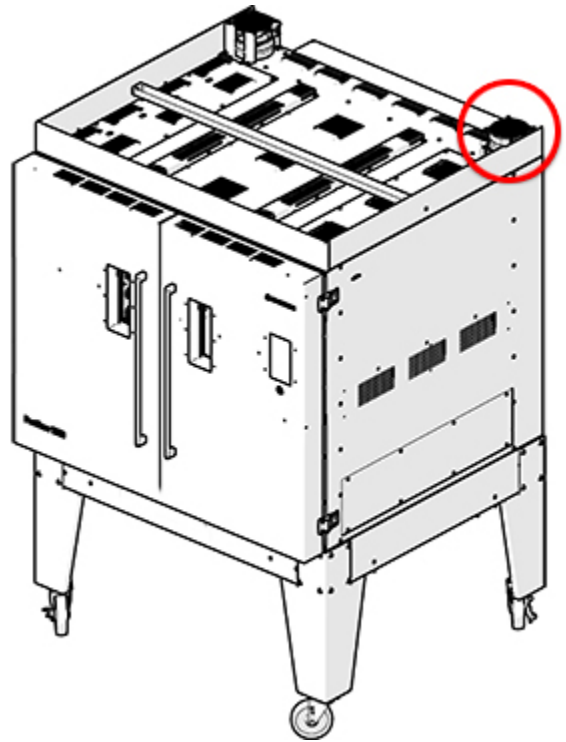
(n) No Waiver. No consent to or waiver of any provision of this Agreement by 3D Systems shall be deemed a consent to or waiver of any other provision hereof, whether or not similar, or a continuing consent or waiver unless otherwise specifically provided.

BY CLICKING ON THE "I AGREE" BUTTON BELOW, LICENSEE ACKNOWLEDGES THAT IT HAS READ THE TERMS OF THIS AGREEMENT ABOVE AND THAT LICENSEE AGREES TO BE BOUND BY SUCH TERMS.

I AGREE

4.5 Install Ventilation Bracket (Optional)

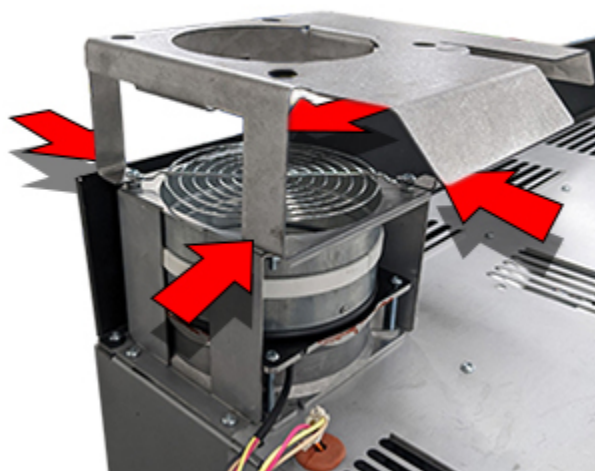
If you wish to install the optional ventilation bracket, perform the following on the back-right exhaust fan:



1. For all four fan screws: Use an adjustable wrench to hold the existing fan nut (1) in place. Loosen the T20 screw to allow room for the ventilation bracket to slide in.



1. Slide each of the four corners of the bracket in place, ensuring that the bracket feet are on top of the fan's grate.



1. Use the holes on the bracket for your T20 driver to tighten the screws and secure the bracket in place.



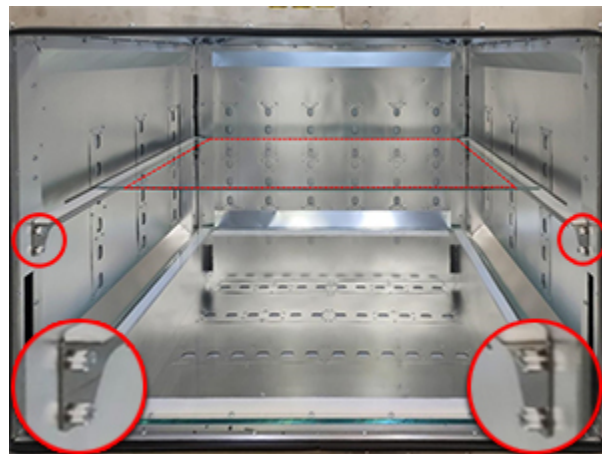
1. Rest 4 in. diameter standard ducting inside of the bracket's hole. Ledges inside keep duct at optimal height with no additional hardware.



4.6 Install Glass Shelf (Optional)

To install the glass shelf:

1. Install the shelf brackets on the left and right sides of the machine using two thumbscrews (included) on each corner.
2. Place the glass shelf on top of the brackets, sliding it until it reaches 5-6 inches from the back of the machine.
3. You can also install the shelf higher by using the higher set of screw-mounting holes:



5 POSTCURE 1050 3D CONNECT

This printer is 3D Connect capable. For more information on 3D Connect architecture, security and requirements, please see the following link:

<https://www.3dsystems.com/software/3d-connect>

6 POSTCURE 1050 ADVANCE PREPARATION CHECKLIST

If you wish to fill out this form by hand:

Press ctrl+P (cmd+P on Mac) to print this page.

If you wish to fill out this form on your computer:

Fill out the information in ALL the fields, and then press ctrl+P (cmd+P on Mac) to print the document.

Checklist

Review this list with a network administrator, IT department, facilities manager, and/or other responsible person within your organization. Please complete the following information:

This is NOT an online form and CANNOT be submitted on this webpage. The form must be printed out and faxed/emailed.

Company Name:	
Telephone (with area code):	
Contact (print full name):	
Date faxed:	
Email:	

Please place a check in each box once that item is complete.

- | | |
|--------------------------|--|
| ☐ | Final installation site is selected. The intended physical location for the PostCure 1050 should be selected in advance, and checked for adherence to the guidelines set out in this guide . |
| ☐ | A method of removing the crate from the shipper's truck has been arranged (forklift is required) and is available to transfer the crate(s) to the de-crating location. |
| ☐ | Your receiving area, hallways, and curing room have the necessary doorway/passageway clearance to move either crated or uncrated components of the PostCure 1050 system. |
| ☐ | Flooring where PostCure 1050 will be located is concrete, has an incline of less than/equal to 2.5 cm/12 m (1 in/40 ft), and has a vibration level of less than/equal to 50 µm/sec over a 4-80 Hz bandwidth. |
| ☐ | Flooring can take the total weight of all system components combined in the room(s) they are in. |
| ☐ | Electrical specifications from this guide are met |
| ☐ | If desired/required, you have purchased enough uninterrupted power supplies (UPS) for your PostCure 1050. |
| ☐ | Temperature of curing room can be kept at 13-30°C (55.4-86°F). |
| ☐ | Curing room can be kept between 20-70% relative humidity (RH). |

☐

3D-Printing room is less than 1,609 m (5,280 f) above mean sea level.

☐

HVAC can perform at least six air changes per hour and 3D-Printing room is well ventilated.

☐

If external ventilation is desired or required, such a system has already been installed in the proper locations by a third-party ventilation provider. The airflow of the ventilation is >25 cfm.

☐

The PostCure 1050 can be isolated in the event of a resin spill or open-radiation Service call.

☐

You have set up hazardous waste containers, as well as arranged for a company to dispose of your hazardous waste according to all government regulations.

Before the machine is installed in this facility, we acknowledge that the installation site complies with the specifications stated in this guide. Once the machine is installed, we agree not to alter any of the required specifications listed in this manual without consulting with a 3D Systems' Customer Service Representative or certified partner. If alterations are made without consulting 3D Systems, it may void the system's warranty.

Customer Signature:

Date:

7 POSTCURE 1050 OBTAINING ASSISTANCE

Should any questions or issues arise, please contact 3D Systems as listed below.

Customer Support Hotline

Please contact your Customer Support Hotline at one of the following numbers:

- US and Canada: 888-598-1438
- UK and EMEA: +44 1442 279883
- International: +1 803-326-3930

General

Most PostCure 1050 service procedures must be performed by a 3D-Systems-certified service technician, unless a 3D Systems official guide explicitly states otherwise. If your 3D printer system needs service, contact 3D Systems Technical Support at the following numbers:

- In the United States or Canada, call 800-793-3669
- In Europe, call +49-6151-357357

You can also contact your local 3D Systems representative.

3D Systems' support portal is located at <http://www.3dsystems.com/support>

For material safety data sheets of 3D Systems' resins, go to <https://www.3dsystems.com/support/materials/sds>.

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Register Statement

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